

CALENDAR YEAR 1999  
SEVENTY-EIGHTH ANNUAL REPORT  
of the  
MARYLAND BUREAU OF MINES



HON. PARRIS N. GLENDENING  
Governor of Maryland

DEPARTMENT OF THE ENVIRONMENT  
JANE T. NISHIDA, Secretary

WATER MANAGEMENT ADMINISTRATION  
J. L. HEARN, Director

MINING PROGRAM  
C. EDMON LARRIMORE, Program Manager

BUREAU OF MINES  
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**A MESSAGE FROM THE SECRETARY**

Protecting and restoring Maryland's environment requires the participation and cooperation of all members of society, including businesses, citizens, and all levels of government. MDE's primary mission is to protect and restore the quality of Maryland's air, water and land resources for the benefit of the environment, public health and future generations, while also supporting and balancing economic development to ensure an excellent quality of life for all Marylanders. We believe that a strong economy and a clean environment, not only go hand-in hand, but are mutually reinforcing. The information in this publication is designed to increase your understanding of our programs.

Jane T. Nishida

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## EXECUTIVE SUMMARY

During Calendar Year 1999, Maryland operators produced 4,121,623 tons of coal. Surface coal mine production was 801,328 tons — 578,571 in Allegany County and 222,757 in Garrett County. Deep coal mine production was 3,320,295 tons, all in Garrett County.

Eighty-nine permitting actions were received and 98 permitting actions were issued, including issuance of three original permits and three permit amendments totaling 179 acres.

Ninety-three acres were affected, 157 acres backfilled, and 196 acres planted. Bond was totally released on 147 acres. Three permits were completed, with bond being totally released. There were no permits forfeited.

Nine hundred fourteen inspections were performed on coal mining operations. Seven Notices of Violations were issued. Twenty-three Citizen Complaints were received and investigated.

The Land Reclamation Committee met six times and approved five reclamation plans. The Committee also evaluated the revegetation on 162 acres eligible for Phase II bond release and approved 143 acres as meeting the standards for release.

During 1999, there were 26 abandoned mine land projects completed which included 199 acres of abandoned and forfeited mine land reclaimed, 3100 linear feet of reconstructed and stabilized stream channel in Georges Creek, 300 feet of grouting of a deep mine, and three acres of wetlands created.

**FOR CALENDAR YEAR 1999**

**MINING PROGRAM**

C. Edmon Larrimore..... Program Manager, Mining Program  
 Ruth D. Booth..... Administrator

**BUREAU OF MINES**

John E. Carey..... Director, Bureau of Mines

Administrative and Systems Support Services

J. Edward Lyons..... Conservation Associate  
 Barbara Murphy (11/99 – present)..... Office Secretary  
 Sallie A. Shuman..... Administrative Specialist

Abandoned Mine Lands Section

Fred L. Bagley..... Acting Section Chief  
 John C. Eilers..... Energy Resources Administrator  
 Michael P. Garner..... Water Resources Engineer  
 Bradley Nee..... Water Resources Engineer

Coal Permitting Section

Stephen M. Layton..... Section Chief  
 Mark Carney..... Water Resources Engineer  
 Alan V. Hooker..... Energy Resources Administrator

Planning, Research & Development Section

Constance A. Lyons..... Section Chief  
 Tobias C. Joy..... Natural Resources Planner  
 Joseph E. Mills..... Environmental Specialist

Bureau of Mines Laboratory

Mary Lynn Pegg..... Laboratory Scientist  
 Julie O'Connor..... Chemist

Mining Inspection and Compliance

Raymond Karlstrand..... Field Supervisor  
 Larry Johnson..... Env. Compliance Specialist  
 Thomas P. Murray..... Env. Compliance Specialist

**FOR THE CALENDAR YEAR 1999  
 REPORT OF THE MARYLAND BUREAU OF MINES**

Coal production in Maryland during 1999 totalled 4,121,623.07 tons. Production in 1999 represents an increase of 103,391.06 from the 1998 production of 4,018,419.36 tons.

**SUMMARY OF 1999 STATISTICS<sup>1</sup>**

**COAL PRODUCTION**

Mining Method	Alegany County	Garrett County	Total
Strip	578,571.40	222,756.90	801,328.30
Deep	.00	3,320,294.77	3,320,294.77
Auger	.00	.00	.00
<b>TOTALS</b>	<b>578,571.40</b>	<b>3,543,051.67</b>	<b>4,121,623.07</b>

**EMPLOYEES<sup>2</sup>**

Type of Mine	Alegany County	Garrett County	Total
Deep	0	281	281
Strip	122	49	171
<b>TOTALS</b>	<b>122</b>	<b>330</b>	<b>452</b>

<sup>1</sup>Reports submitted by Maryland mining operators.

<sup>2</sup>These figures do not include office, supervisor personnel, or independent truck haulers.

**FOR THE CALENDAR YEAR 1999  
TONNAGE BY COAL SEAMS**

<u>Allegany County</u>	
Waynesburg .....	51,510.51
Sewickley (Tyson) .....	69,076.26
Redstone .....	81,813.78
Pittsburgh .....	216,412.60
Morantown .....	62,404.84
L. Pittsburgh .....	67,086.41
Franklin .....	26,422.06
Harlem .....	0
Bakerstown .....	3,844.94
Freeport .....	0
Kittanning .....	0
Federal Hill .....	0
Barton .....	0
<b>TOTAL .....</b>	<b>578,571.40</b>

<u>Garrett County</u>	
Sewickley .....	2,228.37
Pittsburgh .....	7,839.18
Morantown .....	3,497.11
L. Pittsburgh .....	808.29
Franklin .....	58,990.36
Barton .....	16,936.66
Elk Lick .....	0
Harlem .....	0
Bakerstown .....	460,161.69
Brush Creek .....	0
Freeport .....	2,978,377.70
Kittanning .....	13,464.92
Redstone .....	747.39
<b>TOTAL .....</b>	<b>3,543,051.67</b>

**TONNAGE BY BASIN**

Lower Youghiogheny .....	0
Upper Youghiogheny .....	0
Casselman .....	0
Casselman (Cherry Creek) .....	0
Potomac .....	3,459,757.76
George's Creek .....	661,865.31
<b>TOTAL .....</b>	<b>4,121,623.07</b>

**HISTORICAL COAL PRODUCTION BY COUNTY AND TYPE OF MINING**

YEAR	ALLEGANY COUNTY		GARRETT COUNTY		STATE TOTAL
	STRIP*	DEEP	STRIP*	DEEP	
1999	578,571.40	-	222,766.90	3,320,294.77	4,121,623.07
1998	535,720.69	-	202,474.82	3,280,223.85	4,018,419.36
1997	614,588.94	-	267,874.42	3,274,188.01	4,156,651.37
1996	596,799.11	-	176,706.53	3,186,347.63	3,962,853.27
1995	633,165.42	-	147,775.51	2,848,570.41	3,629,531.34
1994	631,249.25	-	165,890.01	2,803,048.97	3,600,188.23
1993	507,668.57	-	341,867.55	2,507,016.83	3,356,552.95
1992	698,015.37	-	367,935.69	2,383,314.12	3,439,266.18
1991	781,671.55	-	378,832.57	2,542,364.32	3,702,868.44
1990	1,056,810.54	-	457,300.32	1,989,527.34	3,513,638.20
1989	867,025.49	-	675,160.16	1,826,443.65	3,368,629.30
1988	562,139.94	-	642,948.91	2,014,828.42	3,219,917.27
1987	790,903.09	-	810,166.55	2,332,554.30	3,933,623.94
1986	696,377.39	-	786,429.97	2,572,505.11	4,055,312.47
1985	543,960.99	-	676,274.41	1,842,595.67	3,062,831.07
1984	730,135.35	-	1,145,507.03	2,117,657.44	3,983,298.82
1983	568,716.82	-	981,500.36	1,536,568.39	3,096,835.57
1982	814,102.63	-	1,056,360.96	1,587,428.07	3,459,891.66
1981	1,275,576.42	-	1,272,911.65	1,903,071.24	4,451,556.31
1980	1,122,817.48	-	1,143,643.80	1,493,630.97	3,760,092.25

\*Figure includes coal removed by the auger method.

CALENDAR YEAR 1998  
 COAL PRODUCTION, MINING AND RECLAMATION STATISTICS FOR ALLEGANY & GARRETT COUNTIES\*

\*This table includes all permits on which there was production, mining, backfilling or planting activity. This table does not include permits on which all bonds have been released or forfeited, or permits on which bonds are still held but no production or mining or reclamation activity occurred.

ALLEGANY COUNTY

Operator	Permit Number	Coal Seam Worked	PRODUCTION (TONS)			Auger	Acres Affected	Acres Backfilled	Acres Planted
			Strip	Deep	Strip				
Barton Mining Company, Inc.	338	L. Pittsburgh	28,616.21	0.0	0.0	0.0	0.0	0.0	
	427	Pittsburgh	35,747.94	0.0	16.0	0.0	0.0	0.0	
		L. Pittsburgh	31,967.75	--	--	--	--	--	
		Morantown	11,234.55	--	--	--	--	--	
		Sewickley	4,304.00	--	--	--	--	--	
	Redstone	2,422.14	--	--	--	--	--		
Brushhear Coal Mines	264	Franklin	21,955.82	1.0	4.0	4.0	4.0		
	368	Bekantown	3,844.94	1.0	0.0	0.0	0.0		
Buffalo Coal Co., Inc.	422	Pittsburgh	47,782.70	1.0	21.0	21.0	21.0		
		Redstone	9,083.41	--	--	--	--		
		Morantown	10,984.86	--	--	--	--		
Clase Coal Co., Inc.	213	Waynesburg	14,540.13	1.5	0.5	0.5	0.5		
	184	Pittsburgh	419.11	3.0	0.0	0.0	0.0		
Cobra Mining, Inc.		L. Pittsburgh	2,574.22	--	--	--	--		
		Franklin	4,466.24	--	--	--	--		
Fairview Coal Co., Inc.	389	Pittsburgh	5,091.70	0.0	0.0	0.0	0.0		
		Redstone	2,167.35	--	--	--	--		
		Morantown	547.70	--	--	--	--		
		Pittsburgh	10,926.90	5.0	0.0	0.0	0.0		
G & S Coal Company, Inc.	430	Morantown	6,107.40	--	--	--	--		
		Morantown	36,970.38	2.0	10.0	10.0	10.0		
Jenkins Development Co., Inc.	411	Waynesburg	0.00	0.0	9.0	9.0			
Kirby Energy, Inc.	373	Pittsburgh	940.18	0.0	0.0	0.0	0.0		
Patriot Mining Co., Inc.	423	Sewickley							

Operator	Permit Number	Coal Seam Worked	PRODUCTION (TONS)			Auger	Acres Affected	Acres Backfilled	Acres Planted	
			Strip	Deep	Strip					
Tri-Star Mining, Inc.	419	Pittsburgh	30,114.94	7.0	8.0	8.0	8.0			
		L. Pittsburgh	3,928.23	--	--	--	--			
		Morantown	22,591.31	--	--	--	--			
		Sewickley	20,850.45	--	--	--	--			
		Redstone	23,226.80	--	--	--	--			
Win-More Mining & Const. Co., Inc.	273	Pittsburgh	4,992.73	0.0	0.0	0.0	0.0			
		Redstone	463.21	--	--	--	--			
		Morantown	2,937.01	--	--	--	--			
Winner Bros. Coal Co., Inc.	40	Pittsburgh	81,278.33	5.0	19.0	19.0	19.0			
		Redstone	44,061.07	--	--	--	--			
		Sewickley	37,107.66	--	--	--	--			
		Morantown	7,941.83	--	--	--	--			
	207	Pittsburgh	0.00	1.0	0.0	0.0	0.0			
	247	Pittsburgh	48.35	0.0	0.0	0.0	0.0			
	Sewickley	5,873.95	--	--	--	--				
		Morantown	50.18	--	--	--	--			
	318	Morantown	0.00	0.0	7.0	7.0	30.0			
	368	Redstone	400.00	0.0	0.0	0.0	0.0			
	385	Pittsburgh	0.00	0.0	11.0	11.0	15.0			
	389	Pittsburgh	0.00	0.0	2.0	2.0	0.0			
	414	Pittsburgh	0.00	0.0	2.0	2.0	0.0			
TOTAL ALLEGANY COUNTY							578,671.40	46.50	82.50	97.50

GARRETT COUNTY

Operator	Permit Number	Coal Seam Worked	PRODUCTION (TONS)			Auger	Acres Affected	Acres Backfilled	Acres Planted
			Deep	Strip	Auger				
Buffalo Coal Co., Inc. G & S Coal Company, Inc.	367	Freeport		86,042.17		13.0	15.0	43.0	
	365	U-Freeport		32,202.45		2.0	38.0	36.0	
		M.Kittanning		13,464.92					
Pineal Mining Co., Inc. Pine Mountain Coal Company	421	Franklin		7,753.45		4.0	0.0	0.0	
	DM1109	Bakerstown	460,161.69			0.0	0.0	0.0	
Tri-Star Mining, Inc.	424	Pittsburgh		3,822.06		1.0	0.0	0.0	
		Moretown		1,806.60					
		Reedstone		115.00					
	419	Pittsburgh		4,017.13					
		L.Pittsburgh		808.29					
		Reedstone		632.39					
Medusa Coal Corporation	429	Moretown		1,690.51					
		Sewickley		2,228.37					
		Franklin		51,236.91		26.0	11.0	17.0	
		Barton		16,936.66					
	434	Barton		0.00		1.0	0.0	0.0	
DM1101	Freeport		2,860,133.06		0.0	0.0	0.0		
<b>TOTAL GARRETT COUNTY</b>			<b>3,320,294.77</b>	<b>222,796.90</b>		<b>47.00</b>	<b>64.00</b>	<b>96.00</b>	
<b>TOTAL BOTH COUNTIES</b>			<b>3,320,294.77</b>	<b>601,328.30</b>		<b>92.50</b>	<b>166.50</b>	<b>195.50</b>	

FOR CALENDAR YEAR 1999  
SUMMARY OF LAND MINED, BACKFILLED, AND PLANTED IN 1999  
(By Geological Basin)

	ACRES THIS YEAR					Bond Released*
	Permitted	Affected	Backfilled	Planted		
<b>Allegheny County:</b>						
Georges Creek Basin	148.00	45.50	92.50	97.50	47.00	
<b>Garrett County:</b>						
Georges Creek Basin	17.00	28.00	11.00	17.00	41.50	
Potomac River Basin	14.00	19.00	53.00	81.00	47.30	
Casselman River Basin**	0.00	0.00	0.00	0.00	11.00	
Cherry Creek Basin	0.00	0.00	0.00	0.00	0.00	
Upper Yough Basin	0.00	0.00	0.00	0.00	0.00	
Lower Yough Basin	0.00	0.00	0.00	0.00	0.00	
<b>TOTAL GARRETT COUNTY</b>	<b>31.00</b>	<b>47.00</b>	<b>64.00</b>	<b>98.00</b>	<b>99.80</b>	
<b>TOTAL BOTH COUNTIES</b>	<b>179.00</b>	<b>92.50</b>	<b>156.50</b>	<b>195.50</b>	<b>146.80</b>	
<b>ACRES CUMULATIVE FROM JANUARY 1, 1975 - DECEMBER 31, 1998</b>						
<b>Allegheny County:</b>						
Georges Creek Basin	6,694.00	5,365.00	4,910.97	4,962.80	3,940.00	
<b>Garrett County:</b>						
Georges Creek Basin	2,493.00	2,466.95	2,262.85	2,528.01	2,595.60	
Potomac River Basin	4,527.00	3,346.70	3,531.80	3,655.70	3,725.40	
Casselman River Basin**	1,416.60	1,135.00	1,260.50	1,142.20	1,241.80	
Cherry Creek Basin**	667.00	671.50	578.90	545.80	659.96	
Upper Yough Basin	216.00	157.35	215.35	189.30	261.50	
Lower Yough Basin	1,335.00	914.00	1,135.06	1,078.16	855.40	
<b>TOTAL GARRETT COUNTY</b>	<b>10,654.60</b>	<b>8,691.50</b>	<b>8,994.46</b>	<b>9,139.17</b>	<b>9,329.65</b>	
<b>TOTAL ALLEGANY COUNTY</b>	<b>17,348.60</b>	<b>14,056.50</b>	<b>13,895.43</b>	<b>14,101.97</b>	<b>13,269.65</b>	

\*Total Bond Release by the Bureau.

\*\*Total Casselman Geological Basin.

PERMITTING ACTIVITY CALENDAR YEAR 1999												
Type of Application	Surface Mines			Underground Mines			Other Facilities			Totals		
	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres
Original Permits	4	3	141	0	0	0	0	0	0	4	3	141
Permit Increments	1	1	21	0	0	0	0	0	0	1	1	21
Modifications/Revisions With Acreage	2	2	17	0	0	0	0	0	0	2	2	17
Modifications/Revisions Without Acreage	16	19		4	7		0	0		20	26	
Transfers	4	3		1	1		0	0		5	4	
Referrals	9	20		2	2		0	0		11	22	
Prospecting Permits	0	1		1	1		0	0		1	2	
Prospecting Letter of Intent	2	2		0	0		0	0		2	2	
Operators License Original	4	4		2	2		0	0		6	6	
Operators License Renewals	26	26		4	4		0	0		30	30	
<b>Totals</b>	<b>68</b>	<b>81</b>	<b>179</b>	<b>14</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>82</b>	<b>98</b>	<b>179</b>

FOR THE CALENDAR YEAR 1999  
LAND RECLAMATION COMMITTEE

Members:

The following members served on the Land Reclamation Committee during 1999:

DEPARTMENT OF THE ENVIRONMENT REPRESENTATIVES:

David Fluke (Chairman), Water Management Administration  
Stephen M. Layton, Bureau of Mines

DEPARTMENT OF NATURAL RESOURCES REPRESENTATIVES:

Ed Golden, Wildlife Division  
Robert Webster, Forestry Division  
Alan Klotz, Freshwater Fisheries

CITIZEN REPRESENTATIVES:

Edgar Harman, Garrett County  
Robert Davis, Allegany County

COUNTY REPRESENTATIVES:

Margaret Jamison, Garrett County  
Tim Carney, Allegany County

SOIL CONSERVATION DISTRICT REPRESENTATIVES:

Craig Hartssock, Allegany Soil Conservation District  
Shaun Sanders, Garrett Soil Conservation District

COAL INDUSTRY REPRESENTATIVES:

Jerry Duckett  
Tim Schwinabart

**FOR THE CALENDAR YEAR 1999  
FUNCTIONS AND DUTIES OF THE LAND RECLAMATION COMMITTEE**

The Land Reclamation Committee is responsible for the approval of all reclamation plans submitted, as part of an application for a permit, to the Bureau of Mines and for the oversight of land reclamation activities on surface coal mining operations in Maryland.

The Land Reclamation Committee visits proposed and active mining sites to:

- (1) determine the suitability of proposed reclamation plans;
- (2) review mining and reclamation progress; and
- (3) evaluate the success of revegetation practices.

During 1999, the Land Reclamation Committee conducted site visits on 8 days. These visits included field reviews of 5 proposed mining sites and 15 revegetation planting reports.

The Land Reclamation Committee conducts meetings to:

1. Review and approve reclamation plans;
2. Review reclamation progress on active mining permits;
3. Evaluate the revegetation on areas eligible for Phase II bond release;
4. Review the surface coal mining laws, regulations and policies and recommend changes to improve effectiveness of the Maryland Regulatory program; and
5. Recommend research and cost-sharing projects to promote optimum revegetation of surface coal mined lands.

During 1999, the Land Reclamation Committee met 6 times. During these meetings, the Land Reclamation Committee approved 5 reclamation plans, evaluated 162 acres of revegetation eligible for Phase II bond release, approved 143 acres as meeting the standards for release, and approved two land-use changes.

**FOR THE CALENDAR YEAR 1999  
RECLAMATION OF SURFACE MINED LANDS**

In accordance with the Maryland Regulatory Program for surface coal mining, the Bureau of Mines is responsible for ensuring that all areas affected by coal mining activities are adequately reclaimed and revegetated. All reclaimed areas are inspected prior to the release of any performance bond to ensure that the areas meet the applicable performance standards and the bond liability periods. A reclaimed area is eligible for a reduction in bond (Phase II) after two years and total release of bond (Phase III) after five years from the approved planting date. A Phase I bond is eligible for release after completion of all reclamation on a permit or the reduction of the Open Acre Limit on the permit.

The following table details the requirements for the release of each phase of bond and the number of acres released during 1999.

Reclamation Results Calendar Year 1999		
Bond Release Phase	Applicable Performance Standard	Acreage Released
Phase I	<ul style="list-style-type: none"> <li>• Area restored to Approximate original contour</li> <li>• Topsoil replaced</li> <li>• Area seeded and mulched</li> <li>• Completion of all reclamation work on the permit or the open acre limit is reduced</li> </ul>	124
Phase II	<ul style="list-style-type: none"> <li>• Revegetation established in accordance with approved reclamation plan and standards for success of revegetation met</li> <li>• The lands are not contributing suspended solids to stream flow or runoff outside the permit area</li> <li>• Temporary drainage control structures are removed or all permanent structures are inspected and approved</li> <li>• Land Reclamation Committee has inspected and approved the revegetation on the area</li> </ul>	190.5
Phase III	<ul style="list-style-type: none"> <li>• Postmining land use/productivity restored</li> <li>• Successful permanent vegetation established</li> <li>• Groundwater recharge, quality and quantity restored</li> <li>• Surface water quality and quantity restored</li> <li>• Applicable bond liability period has expired</li> </ul>	146.6

## CALENDER YEAR 1999 ABANDONED MINE LAND PROGRAM

The Maryland Bureau of Mines administers the Abandoned Mine Lands Program to reclaim and restore land and water resources adversely affected by past coal mining. The Abandoned Mine Land Program utilizes several fund sources to accomplish these goals.

1. The Maryland-Federal AML Fund made available under the Federal Surface Mining Control and Reclamation Act of 1977 (U.S. Public Law 95-87) and Environmental Article, Title 15, Subtitle 11 of the Annotated Code of Maryland.
2. The Deep Mine Fund made available under the Environmental Article Title 15, Subtitle 6 Annotated Code of Maryland.
3. The Water Quality Restoration Loan of 1970 made available under the Environmental Article, Title 15, Subtitle 7 Annotated Code of Maryland.
4. Small Creeks and Estuaries Water Quality Restoration Cost-Share Program.

The Maryland Bureau of Mines also administers the Bituminous Coal Open-pit Mining Reclamation Fund made available under the Environmental Article Title 15, Subtitle 5 of the Annotated Code of Maryland. These funds are used to reclaim existing mines for which the mining permit has been revoked and the bond forfeited. The monies received from bond forfeitures and the Bond Supplemental Reserve are used to reclaim lands affected by existing mining operations for which the reclamation liability was charged to the bonds. The Bond Supplemental Reserve is utilized when the bond is not sufficient to cover the reclamation costs.

The Maryland Abandoned Mine Land Reclamation Plan received Federal approval on July 16, 1982, thus enabling Maryland to receive Federal funds for the reclamation of abandoned mine lands. During 1999, grants awarded to Maryland by the U.S. Department of Interior, Office of Surface Mining, provided \$1,208,260 for the reclamation of abandoned mine lands. Also, funds provided by the Water Restoration Loan of 1970 for \$614,466 and \$246,790 from the Forfeiture and Bond Supplement Fund, made a total of \$2,070,516 spent to complete projects.

There were twenty-six projects completed which included 199 acres of abandoned and forfeited mine land reclaimed, 3100 linear feet of reconstructed and stabilized stream channel in Georges Creek, 300 feet of grouting of a deep mine under Route 936 near Midland, and 3 acres of wetlands created. The project were all located in the coal region of western Allegany and Garrett Counties.

In 1992, the Federal Government instituted a program called the National Reclamation Award to recognize the outstanding achievements of abandoned mine land reclamation.

The following from the Durst Road Abandoned Mine Lands Project demonstrates the type of work that is being accomplished in western Maryland by the Abandoned Mine Lands Section. Although each project presents different problems to solve, the results will eliminate highly visible scars from the unreclaimed landscape, clean and protect stream, prevent acid mine drainage and return the land to a productive state.

## DURST ROAD ABANDONED MINE LANDS PROJECT

### Site History

The Durst Road Abandoned Mine Land Reclamation Project is located in Garrett County, Maryland approximately 4 miles southwest of Grantsville in the Casselman Coal Basin, immediately adjacent to the Casselman River. The coal basin is bounded by Negro Mountain to the west and Meadow Mountain to the east, the Eastern Continental Divide of North America. This makes the Casselman River a unique Maryland river in that it flows to the Mississippi instead of the Chesapeake Bay. The Casselman River flows north through the center of the coal basin and is a major source of recreation for local residents as well as attracting tourist and sportsman from all over Maryland and surrounding states. Garrett County is a rural, mountainous area with large tracts of publicly owned land and the natural resources are a vital component of the economy (tourism, extraction), culture and recreation of the communities that reside within it's boundaries.

The unnamed mine on Durst Road was one of the earliest to surface mine coal in Maryland. The mine operated from the late 1940's to approximately 1952, beginning operations in the Upper Freeport Coal Seam that lay exposed along the banks of the North Branch Casselman River. Spoil from the first cuts was used to divert the river around the area to be mined. A large bend in the river was straightened and consequently, 2000 linear feet of stream and floodplain with it's wetlands, laurel thickets, aquatic habitat and prime wildlife habitat were destroyed. The newly formed banks of the river were comprised of eroding, acid bearing spoil that continued to cause downstream impacts until reclamation was complete.

When mining operations were terminated in 1952, the site was abandoned leaving approximately 30 acres of exposed, acid bearing spoil, 1500 linear feet of clogged stream, 3400 linear feet of dangerous highwall and 3 hazardous water bodies. Over the years the area became a local dump leaving one acre of residential and industrial waste. Water sampling indicated that the mine contributed a net acid discharge of 46 lbs per day to the North Branch Casselman River.

During the 1960's, the Maryland Forests, Parks and Wildlife Service realized that the site was having a substantial impact on the Casselman river due to erosion and acid mine drainage. Trees were planted on the site to provide some stabilization to the stream banks and spoil piles. Small groves of Red Pine became well established but overall the site remained unvegetated and barren.

Because of it's close proximity to a county road and easy access, the site became well known to locals as a swimming hole, dumping area and place to consume alcoholic beverages. Shallow submerged rock ledges created hidden dangers to individuals diving from the highwall. These dangerous activities were reported by the landowner and observed by Bureau of Mines and Garrett County officials.

## Project Development and Design

Project development began in the Spring of 1986, shortly after the inception of Maryland's Abandoned Mine Land Program, with the Bureau of Mines staff collecting field data at the site. Water quality data was compiled from various sample points located within and adjacent to the mine site. The data indicated that erosion of the spoil piles and the pit discharge were having a moderate impact on the already marginal quality of the receiving streams (the North Branch Casselman River).

Backfilling the pits and revegetating the spoil would have eliminated the health and safety hazards, but the Maryland Bureau of Mines saw an opportunity to create some unique wildlife habitat. Recognizing that there were some unexpected and fortuitous features resulting from the mining, the Bureau decided that utilizing only traditional reclamation methods would be a step backwards. The Bureau identified these features and incorporated them into a design that would eliminate the health and safety problems as well as improve on the environmental quality of the site. The Maryland Forest, Parks and Wildlife, the Non-tidal Wetlands Division and the Fisheries Division were consulted and assisted the Bureau of Mine's engineers with wildlife and fishery habitat enhancement techniques and wetland creation methods. In 1989, utilizing the technical assistance provided by these various state agencies, the Bureau of Mines completed the development of the reclamation design. The landowner, a retired horticulturalist, accepted the design with enthusiasm and also provide valuable technical input related to revegetation.

The design consisted of reducing the highwall and low-wall to a maximum 2.5 : 1 slope. This reduced slope would be extended to 6' below the final water elevation. This would allow for the removal of sudden drop offs and submerged rock ledges while retaining the water body for wildlife enhancement. Additionally, large shallow areas and islands would be created for shallow open water/wetland fish habitat and to provide cover protection for migrating water fowl.

The eroding stream banks of the North Branch Casselman River would be reduced and stabilized using Rip-Rap. Existing vegetation along the banks would be avoided in order to minimize thermal impacts to the stream. The final grading plan would utilize selective grading to preserve clusters of established vegetation. Subsurface limestone drains would be constructed to provide a clean flow path through the backfilled areas to convey alkaline groundwater to the water bodies. During grading of the spoil piles, pockets of topsoil would be salvaged and spread over the final grades to provide a growing medium. The site would be revegetated using a mixture of noninvasive or persistent grasses which would allow the natural flora and fauna to invade and colonize the site.

## Reclamation Construction

The construction contract was approved by the Maryland Board of Public Works on November 27, 1991. The contract was awarded to Winner Bothers Coal Company, Inc., of Frostburg, Maryland in the amount of \$178,623.00. Construction was subcontracted to Pyramid Equipment Company, of LaVale, Maryland. Project construction began on May 1, 1992 and completed on October 14, 1992.

The project consisted of 88,500 cubic yards of earthwork to reclaim 38 acres of abandoned surface coal mine which included the elimination of public health and safety hazards associated with 3,400 linear feet of dangerous highwall, 3 hazardous water

bodies, 460 linear feet of clogged stream, 15 acres of clogged stream lands and one acre of industrial/residential waste.

During the course of construction, the contractor consistently demonstrated an excellent ability and desire to complete the required reclamation and enhancement work. Additionally, the contractor and landowner made specific suggestions to modify the construction plan for wildlife enhancement and with the Bureau of Mines approval the contractor implemented these modifications at no additional cost to the contract.

By using innovative reclamation techniques, the Bureau of Mines reduced the amount of earthwork by approximately 50% and revegetation by 25% which resulted in an approximate cost savings of \$100,000.00. Additionally, the site is in a more advanced state of forest succession due to the clusters of mature trees scattered throughout the site.

## Post Construction Efforts and Current Status

The Maryland Bureau of Mine's revegetation crew assisted the landowner by supplying trees and shrubs to supplement those provided from the landowners own greenhouses. Since the completion of construction, approximately 20,000 trees and shrubs have been planted on the site. A variety of tree and shrub species were planted around the water bodies, within the wetlands, and on the upland areas. Species such as Alder, Willow, Red Maple, River Birch, Sycamore and Black Pine were planted along the water edge and within the wetlands. Poplar, Red Pine, Dogwood, Black Cherry, Ash, Aspen and Spruce were planted on the upland areas. The tree and shrub plantings were designed to provide maximum grassland/forest edge and to provide travel lanes of trees to allow wildlife to migrate to and from the water bodies while remaining in cover.

Additionally, the Bureau of Mines constructed limestone fill areas between the water bodies to increase the alkalinity as the water flows into each successive water body. The landowner also allowed a dry fire hydrant to be installed at the water bodies so that the local fire department can fill their trucks in the case of a nearby fire emergency.

Currently, the site is stabilized and undergoing the slow transformation from grassland to forest. The survival rate of the planted trees has been excellent and are providing a variety of habitats. Many wildlife species, such as turkey, deer, Canadian geese, beaver, bear and blue herons, have been seen on the site.

Water quality problems on the site have been completely eliminated. The spoil piles have been stabilized eliminating the erosion of acidic spoil into the stream and water bodies. The water body discharge is net alkaline and has a pH of 7. The water bodies have been stocked with trout, bluegills, and bass and are thriving and reproducing.

## Conclusion

The National Environmental Policy Act of 1969 (NEPA) requires the State to perform an environmental review of the proposed project by presenting the reclamation alternatives to other state agencies that regulate and protect the environmental and cultural resource values of the State. The successful reclamation of the Durst Road Abandoned Mine Lands Project exemplifies the spirit and intent of the NEPA. Through the NEPA coordination process, a reclamation design was developed and implemented that not only

protected these resource values but created additional natural resources for future generations to enjoy.

In conclusion, innovative reclamation design techniques and cooperation between state agencies, contractors and the landowner resulted in the exemplary reclamation of 38 acres of abandoned stripmine. Post reclamation construction efforts have established a variety of tree, shrub and grass species on the site. All the health and safety hazards have been eliminated and the site returned to the prime fish and wildlife habitat that existed prior to mining.

**FOR CALENDAR YEAR 1999**

**MINE FOREMAN AND FIRE BOSS EXAMINATIONS AND CERTIFICATIONS**

The number of Mine Foreman and Fire Boss applicants examined and certified from 1985 through 1999 are identified below.

YEAR	APPLICANTS EXAMINED		APPLICANTS CERTIFIED	
	Mine Foreman	Fire Boss	Mine Foreman	Fire Boss
1999	17	5	17	5
1998	13	15	13	5
1997	18	5	18	5
1996	0	0	4	0
1995	0	0	14*	0
1994	24	4	24	4
1993	25	8	25	8
1992	0	0	5*	0
1991	6	0	6	0
1990	19	4	18	4
1989	0	0	25*	0
1988	15	0	11	0
1987	0	0	10*	0
1986	0	0	25*	0
1985	0	0	11*	0

\*These applicants were upgraded from Fire Boss to Foreman, based on years of experience, without taking an examination.

**INSPECTION AND ENFORCEMENT ACTIVITIES  
1995-1999**

TYPE OF ACTION	1995	1996	1997	1998	1999
Inspections	1073	991	990	1058	914
Notices of Violations	8	5	11	13	7
Cessation Orders	15	0	1	1	0
Citizen Complaints	44	33	7	24	23
Bond Forfeitures	0	1	0	0	0

**MINING PERMITS ISSUED BY YEAR AND PERMITTEE**

<u>Permit No.</u>	<u>Year Issued</u>	<u>Permittee</u>
1	1955	The George's Creek Lumber Company*
2	1955	Allegheny Engineering Company*
3	1955	B.M.W. Coal Company*
4	1955	Old Hampshire Coal Company, Inc.*
5	1955	Car and Goffely Construction Co.*
6	1955	M.H. Bigan Coal Company*
7	1955	Moran Coal Company*
8	1955	Allegheny Engineering Company*
9	1955	Schell Mining Company, Inc.*
10	1955	B & U Coal Company*
11	1955	Morgan Contracting Company**
12	1955	Romadale Coal Corporation*
13	1955	Cross Fuel Company*
14	1955	Highland Construction Company*
15	1955	Phoenix Big Vein Coal Company (Repermitted 338)*
16	1955	Moran Coal Company*
17	1955	T.J. Cramblett**
18	1955	Moscow-Georges Creek Coal Company*
19	1955	J.R. Thrasher Contracting & Stripping Co.*
20	1956	Moran Coal Company (Repermitted 333)*
21	1956	Schell Mining Company, Inc.**
22	1956	Savage Coal Company*
23	1956	Moran Coal Company*
24	1956	The Georges Creek Coal & Land Co.*
25	1957	Charles T. Clise*
26	1957	Allegheny Engineering Company*
27	1957	Goodwill Fuel Company*
28	1957	D.B.&B. Coal Company*
29	1957	Queen George's Creek Coal Company**
30	1957	Mack Coal Company**
31	1957	White Crest Coal Company, Inc.**
32	1957	D.B.&B. Coal Company*
33	1957	Moran Coal Company*
34	1957	Chelsie A. Liller*
35	1957	J.E. George Trucking Company**
36	1957	D.B.&B. Coal Company*
37	1957	J.&M. Coal Company**
38	1957	Casey Construction Company**
39	1958	Moran Coal Company*
40	1958	United Energy Coal, Inc.
41	1958	Buffalo Coal Company, Inc.*
42	1958	Casey Construction Company**
43	1958	Sara-KI Coal Company, Inc.*

<u>Permit No.</u>	<u>Year Issued</u>	<u>Permittee</u>
44	1958	Yantus & Zubek Coal Company*
45	1958	Moran Coal Company*
46	1958	Casey Construction Company**
47	1958	Moran Coal Company*
48	1958	Moran Coal Company*
49	1958	Sara-KI Coal Company, Inc.*
50	1958	Laurel Creek Company, Inc.**
51	1958	D.B.&B. Coal Company**
52	1958	Moon and Sons*
53	1959	George L. Smith Contracting Company*
54	1959	The Georges Creek Lumber Company*
55	1959	Moran Coal Company*
56	1959	North Branch Coal Corporation*
57	1959	George Coal Company**
58	1959	Samuel Compton & Company**
59	1959	Hoover & White*
60	1959	Laurel Creek Company, Inc.**
61	1959	The Eddy Fuel Company**
62	1959	J.R. Thrasher Contracting & Stripping Co.*
63	1959	Pittsburgh Coal Company*
64	1959	Mineral Coal Company, Inc., of West Virginia*
65	1959	Laurel Creek Company, Inc.*
66	1959	The Georges Creek Lumber Company*
67	1959	Chelsie A. Liller*
68	1959	Casey Contracting Company**
69	1959	Pine Mountain Coal Company*
70	1959	Opel and Brenneman*
71	1959	The Georges Creek Lumber Company*
72	1959	P.&J. Coal Company*
73	1959	Casey Contracting Company**
74	1959	Goodwill Fuel Company*
75	1959	D.B.&B. Coal Company*
76	1960	Baughman Contracting Company, Inc.*
77	1960	P&K Coal Company*
78	1960	Morgan Contracting Company*
79	1960	Buffalo Coal Company, Inc.*
80	1960	Buffalo Coal Company, Inc.*
81	1960	Randall Robertson*
82	1960	Hoover & White**
83	1960	James E. George*
84	1960	B.M.W. Coal Company, Inc.*
85	1960	Casey Contracting Company**
86	1960	Beener Coal Company*
87	1960	Moran Coal Company, Inc.*
88	1960	D&K Coal Company*
89	1960	Brenneman Brothers*

Permit No.	Year Issued	Permittee
90	1960	Mack Coal Company*
91	1960	Clarence Rodamer*
92	1960	James E. George*
93	1961	Casey Contracting Company**
94	1961	Winner Brothers*
95	1961	Moran Coal Company, Inc.*
96	1961	Big Vein Coal Company*
97	1961	Maryland Fuel Company, Inc.*
98	1961	Yantus-Zubek Coal Company*
99	1961	J.R. Thrasher Contracting & Stripping Co.*
100	1961	Trefall Bros., Inc.*
101	1961	Mack Coal Company*
102	1961	C.A. Liller Company*
103	1961	Cross & Brumage Coal Company*
104	1961	Beener Coal Company*
105	1961	D&K Coal Company*
106	1961	Mack Coal Company*
107	1961	Yantus and Zubek*
108	1961	Potomac Mining Company*
109	1962	Casey Contracting Company*
110	1962	Wilhelm Coal Company*
111	1962	The Georges Creek Lumber Company*
112	1962	Clark Coal Company*
113	1962	Casey Contracting Company*
114	1962	Casey Contracting Company*
115	1962	Douglas Coal Company*
116	1962	Red Lion Mining Corporation**
117	1962	Ebensburg Coal and Clay Company*
118	1963	James E. George*
119	1963	Ebensburg Coal and Clay Company*
120	1963	J.R. Thrasher Contracting & Stripping Co.*
121	1963	Moran Coal Company, Inc.*
122	1963	Buffalo Coal Company, Inc.*
123	1963	J.R. Thrasher Contracting & Stripping Co.*
124	1963	Win-More Mining & Construction Co., Inc.*
125	1963	Beener Coal Company*
126	1964	W.R. Nethken and Company, Inc.*
127	1964	Mack Coal Company*
128	1964	J.R. Thrasher Contracting & Stripping Co.*
129	1964	J. Russell Cravener*
130	1964	Chelsie A. Liller*
131	1964	The Georges Creek Lumber Company*
132	1964	Brenneman Brothers*
133	1965	W.R. Nethken and Company, Inc.*
134	1965	Richards and Pamell Coal Company*
135	1965	William Brashear*

Permit No.	Year Issued	Permittee
136	1965	W.R. Nethken and Company, Inc.*
137	1965	G&S Coal Company, Inc.*
138	1966	J.R. Thrasher Contracting & Stripping Co.*
139	1966	J.R. Thrasher Contracting & Stripping Co.*
140	1966	Shallmar Coal Company, Inc.*
141	1966	Randall Robertson**
142	1966	Ace Drilling Coal Company, Inc.*
143	1966	Beener Coal Company*
144	1966	Clarence Rodamer*
145	1967	Ginniman Coal Company*
146	1967	Raymond A. Wolf Mining Company*
147	1967	Menallen Coke Company*
148	1967	Russel Shafer*
149	1967	Homage Coal Co. (Emmett Duppstadt)*
150	1967	Twin States Coal Company**
151	1967	M.F. Fetterolf Coal Company, Inc.*
152	1967	Ebensburg Coal and Clay Company*
153	1968	Raymond A. Wolf Mining Co. (UPRC)*
154	1968	Michael Rostosky*
155	1968	Ginniman & Ware Coal Company*
156	1968	Harold H. Upole Coal Company*
157	1968	T.G.&C. Coal Company, Inc.*
158	1969	Clarence Rodamer Coal Company*
159	1969	Michael Rostosky Coal Company*
160	1969	Russel Shafer Coal Company*
161	1969	Buffalo Coal Company, Inc.*
162	1969	J.R. Thrasher Contracting & Stripping Co.***
163	1969	Buffalo Coal Company, Inc.*
164	1969	Union Coal Company*
165	1970	Win-More Mining & Construction Co., Inc.*
166	1970	Ginniman Coal Company*
167	1970	Upperman Coal Company*
168	1970	Frank Pulford**
169	1970	Winner Bros. Coal Company, Inc.*
170	1970	Russel Shafer*
171	1970	The Chief Coal Company*
172	1970	Mary Ruth Corporation*
173	1970	Oakland Coal Company*
174	1971	Bernard C. Drees*
175	1971	Delta Mining, Inc.*
176	1971	D&K Coal Company, Inc.*
177	1971	T.G.&C. Coal Company, Inc.*
178	1971	Emmett Duppstadt*
179	1971	Somerset Excavating, Inc.*
180	1971	Ayers Coal Company*
181	1971	Delta Mining, Inc.*

Permit No.	Year Issued	Permittee
182	1971	Patriot Mining Company, Inc.*
183	1971	Chief Coal Company*
184	1971	Cobra Mining
185	1971	Bessemer Iron & Coal Company*
186	1971	Coal Lick Coal Company*
187	1971	Phillips Big Vein Coal Company*
188	1971	Ace Drilling Coal Company, Inc.*
189	1971	Buffalo Coal Company, Inc.*
190	1971	Buffalo Coal Company, Inc.*
191	1971	Keystone Coal and Development Company (Liability Assumed by Garrett County Roads Department)
192	1971	Ace Drilling Company, Inc.*
193	1972	Wilhelm Coal, Inc.*
194	1972	M.F. Fetterolf Coal Company, Inc.***
195	1972	Buffalo Coal Company, Inc.*
196	1972	Bessemer Iron & Coal Company*
197	1972	Grafton Coal Company*
198	1972	Jet Fuel Coal Company*
199	1972	Bessemer Iron & Coal Company*
200	1972	Chief Coal Company*
201	1972	Brashear Coal Company*
202	1972	Winner Bros. Coal Company, Inc.*
203	1972	Mary Ruth Corporation*
204	1972	Grafton Coal Company*
205	1972	Chief Coal Company*
206	1972	Upperman Coal Company*
207	1972	Winner Bros. Coal Company, Inc.
208	1973	Sanner Bros. Coal Company*
209	1973	Delta Mining, Inc.*
210	1973	Markat, Inc.*
211	1973	Oakland Coal Company*
212	1973	Bessemer Iron & Coal Company*
213	1973	Clise Coal Company
214	1973	Inter-State Lumber Company*
215	1973	Buffalo Coal Company, Inc.*
216	1973	Brashear Coal Company***
217	1973	Bernard Drees Coal Company*
218	1973	Buffalo Coal Company, Inc.*
219	1973	G&S Coal Company, Inc.*
220	1974	Evans Coal Company*
221	1974	Bridgeview Coal Company*
222	1974	John Duckworth Coal Company*
223	1974	Edward Mikel*
224	1974	Delta Mining, Inc.*
225	1974	Northwest Coal Company, Inc.*
226	1974	Thrasher Coal Company**

Permit No.	Year Issued	Permittee
227	1974	Winner Bros. Coal Company, Inc.*
228	1974	Bittinger Coal Company*
229	1974	Charles M. Filsinger*
230	1974	G&H Coal Company, Inc.*
231	1974	Hi-Note, Inc.*
232	1974	Buffalo Coal Company, Inc.*
233	1974	Oliver Mining Company**
234	1974	Clise Coal Company*
235	1974	Markat, Inc.*
236	1974	Delta Mining, Inc.*
237	1974	Bridgeview Coal Company*
238	1974	Burnham Coal Company, Inc.*
239	1974	Highland Mining*
240	1974	Buffalo Coal Company, Inc.*
241	1975	Buffalo Coal Company, Inc.*
242	1975	Hopwood Strip Mine, Inc.**
243	1975	Ponderosa Coal Company, Inc.*
244	1975	Markat, Inc.*
245	1975	Phillips Coal, Inc.*
246	1975	Lambert Coal Company*
247	1975	United Energy Coal, Inc.
248	1975	Buffalo Coal Company, Inc.*
249	1975	Cobra Fuels*
250	1975	Laoc Coal Company*
251	1975	Tower Resources, Inc.*
252	1975	Phillips Coal, Inc.*
253	1975	Pine Mt. Coal Company*
254	1975	T.G.&C. Coal Company*
255	1975	Allegheny Mining Company*
256	1975	Bridgeview Coal Company*
257	1975	A&R Coal Company*
258	1975	Clinton Coal Company**
259	1975	Tower Resources, Inc.*
260	1975	Yough Tree Farm*
261	1975	Russel Shafer***
262	1975	Northwest Coal Company**
263	1975	Allegheny Mining Corporation*
264	1975	Brashear Coal Company
265	1975	Bittinger Coal Company*
266	1975	Delta Mining, Inc.*
267	1975	Bittinger Coal Company*
268	1975	Clyde Marsh Coal Company*
269	1975	Hungry Hollow Coal Company*
270	1975	Clise Coal Company*
271	1975	A&R Coal Company*
272	1975	Action Mining, Inc.*

Permit No.	Year Issued	Permittee
273	1975	Win-More Mining & Construction
274	1975	Evans Coal Company*
275	1975	Buffalo Coal Company, Inc.*
276	1975	Buffalo Coal Company, Inc.*
277	1975	Allegheny Mining Corporation
278	1976	Inter-State Lumber Company*
279	1976	Buffalo Coal Company, Inc.*
280	1976	Delta Mining, Inc.*
281	1976	Rondell Company*
282	1976	Phillips Coal, Inc.*
283	1976	G&H Coal Company, Inc.*
284	1976	Tower Resources, Inc.*
285	1976	Clinton Coal Company**
286	1976	Winner Bros. Coal Company, Inc.
287	1976	T.L. Moran, Inc.*
288	1976	Delta Mining, Inc.*
289	1976	Pine Mt. Coal Company*
290	1976	Delta Mining, Inc.*
291	1976	George Nolan**
292	1976	Alexander Coal Co.*
293	1976	Pine Mt. Coal Company*
294	1976	Arlen Miller***
295	1976	Action Mining, Inc.*
296	1976	Bessemer Iron & Coal Company**
297	1977	Oakland Coal Company
298	1977	Bittinger Coal Company*
299	1977	Inter-State Lumber, Inc.*
300	1977	Garbart Coal Company*
301	1977	Pine Mt. Coal Company*
302	1977	L.C. Coal Company, Inc.*
303	1977	Ginniman Brothers Coal Company**
304	1977	Buffalo Coal Company, Inc.*
305	1977	Wood Products, Inc.*
306	1977	Bridgeview Coal Company*
307	1977	T.L. Moran, Inc.*
308	1977	Best Coal Stripping, Inc.**
309	1977	Delta Mining, Inc.*
310	1977	Oakland Coal Company*
311	1977	Primrose Coal Company*
312	1977	R.A.K. Coal Company, Inc.**
313	1977	G&S Coal Company*
314	1977	Wilhelm Coal, Inc.**
315	1977	Clise Coal Company
316	1977	Brawal Mining, Inc.*
317	1977	John R. Livingston**
318	1977	Winner Bros. Coal Company, Inc.

Permit No.	Year Issued	Permittee
319	1977	John Duckworth Coal Company*
320	1977	Kalley Enterprises*
321	1978	Delta Mining, Inc.*
322	1978	Bridgeview Coal Company*
323	1978	Ayers Coal Company*
324	1978	John Duckworth Coal Company*
325	1978	G&S Coal Company, Inc.
326	1978	Buffalo Coal Company, Inc.
327	1978	Buffalo Coal Company, Inc.*
328	1978	Buffalo Coal Company, Inc.
329	1978	Winner Bros. Coal Company, Inc.
330	1978	Inter-State Lumber Company*
331	1978	R.A.K. Coal Company***
332	1978	Seneca Mining Company*
333	1978	Westvaco Corporation*
334	1978	Buffalo Coal Company, Inc.*
335	1978	Inter-State Lumber Company**
336	1978	Inter-State Lumber Company*
337	1978	Kirby Energy, Inc.*
338	1978	Barton Mining Company, Inc.
339	1978	Wilhelm Coal, Inc.*
340	1978	Fetterolf Mining, Inc.*
341	1979	Eastern Mining Systems, Inc.**
342	1979	Primrose Coal Company*
343	1979	L.C. Coal Company*
344	1979	Bridgeview Coal Company*
345	1979	Delta Mining, Inc.**
346	1979	Inter-State Lumber Company*
347	1979	Kalley Enterprises*
348	1979	Schwinabart & Green, Joint Venture*
349	1979	Wilhelm Coal, Inc.**
350	1980	Bridgeview Coal Company*
351	1980	Winner Bros. Coal Company, Inc.*
352	1980	John Duckworth Coal Company*
353	1980	Winner Bros. Coal Company, Inc.
354	1980	Brawal Mining, Inc.*
355	1980	Hi-Note, Inc.*
356	1980	G&S Coal Company, Inc.***
357	1980	Richard Duckworth Coal Company*
358	1980	Bridgeview Coal Company*
359	1980	Buffalo Coal Company, Inc.
360	1980	Buffalo Coal Company, Inc.*
361	1980	Pamela Mines, Inc.**
362	1980	Alpha Mining, Inc.*
363	1980	Pamela Mines, Inc.**

<u>Permit No.</u>	<u>Year Issued</u>	<u>Permittee</u>
364	1980	John Duckworth Coal Company*
365	1980	G&S Coal Company, Inc.
366	1980	Buffalo Coal Company, Inc.*
367	1980	Buffalo Coal Company, Inc.
368	1980	Winner Bros. Coal Company, Inc.
369	1980	Bittinger Coal Company*
370	1982	Keystone Mt. Development Company*
371	1982	Eagle Mining, Inc.*
372	1982	John Duckworth Coal Company
373	1982	Kirby Energy, Inc.
374	1982	Winner Bros. Coal Company, Inc.
375	1982	Win-More Mining & Construction Company
376	1982	Jones Coal, Inc.**
377	1982	Allegheny Mining Corporation*
378	1982	Delta Mining, Inc.**
379	1982	Masteller Coal Company*
380	1982	Fairview Coal Company (Repermitted 399)*
381	1982	Richard Duckworth Coal Company*
382	1983	Pine Mt. Coal Company
383	1983	Allegheny Mining Corporation*
384	1983	Evans Coal Company*
385	1983	Winner Bros. Coal Company, Inc.
386	1983	Jones Mining, Inc.*
387	1983	Hilltop Construction Company**
388	1983	Fetterolf Mining, Inc.*
389	1983	Winner Bros. Coal Company, Inc.
390	1983	C.J. Merlo, Inc.*
391	1983	Oak Springs Coal Company*
392	1984	Westvaco Resources, Inc.*
393	1984	Patriot Mining Company, Inc.
394	1984	Action Mining, Inc.*
395	1984	Stan-Jan Excavating, Inc.*
396	1984	Allegheny Mining Corporation*
397	1985	Michael R. McGowan*
398	1985	Brashear Coal Company
399	1985	Fairview Coal Company
400	1985	Delta Mining, Inc.*
401	1985	Buffalo Coal Company, Inc.***
402	1985	Pine Mt. Coal Company*
403	1985	T.D. Mining Company**
404	1986	Clise Coal Company
405	1986	Jones Coal, Inc.**
406	1986	Patriot Mining Company, Inc.*
407	1986	Winner Bros. Coal Company, Inc.
408	1986	Tri Star Mining, Inc.*
409	1986	Buffalo Coal Company, Inc.

<u>Permit No.</u>	<u>Year Issued</u>	<u>Permittee</u>
410	1987	J. Walter Wassell
411	1987	Jenkins Development Company
412	1987	John Duckworth Coal Company***
413	1988	Buffalo Coal Company, Inc.*
414	1989	Winner Bros. Coal Company, Inc.
415	1989	Pine Mt. Coal Company*
416	1989	Action Mining, Inc.
417	1989	Tri Star Mining, Inc.*
418	1991	Tri Star Mining, Inc.
419	1991	Tri Star Mining, Inc.
420	1991	Pine Mt. Coal Company
421	1992	G&S Coal Company, Inc.
422	1992	Buffalo Coal Company, Inc.
423	1992	Patriot Mining Company, Inc.
424	1995	Pine Mt. Coal Company
425	1995	Tri Star Mining, Inc.
426	1996	Tri Star Mining, Inc.*
427	1996	Barton Mining Company, Inc.
428	1997	Mettiki Coal, LLC
429	1997	Tri Star Mining, Inc.
430	1998	G&S Coal Company, Inc.
431	1998	Patriot Mining Company, Inc.
432	1999	Barton Mining Company, Inc.
433	1999	Win-More Mining & Construction
434	1999	Tri Star Mining, Inc.

#### DEEP MINES

DM 101	1977	Mettiki Coal, LLC
DM 102	1977	Masteller Coal Company*
DM 103	1977	Mt. Top Coal Company*
DM 104	1977	Mettiki Coal Corporation
DM 105	1977	Mettiki Coal Corporation
DM 106	1978	A&J Coal Corporation**
DM 107	1982	Masteller Coal Company*
DM 108	1989	Anker West Virginia Mining Co., Inc.
DM 109	1991	Patriot Mining Company, Inc.
DM 110	1992	Masteller Coal Company

#### TIPPLES AND GOB PILES

SC-83-101	1983	Buffalo Coal Company
SC-83-102	1983	Buffalo Coal Company*
SC-83-103	1983	Buffalo Coal Company*
SC-83-104	1983	Buffalo Coal Company
SC-83-105	1983	Buffalo Coal Company*
SC-83-106		Permit Not Issued

<u>Permit No.</u>	<u>Year Issued</u>	<u>Permittee</u>
SC-83-107	1983	Delta Coal Sales, Inc.**
SC-83-108	1984	Delta Coal Sales, Inc.*
SC-83-109		Permit Not Issued
SC-83-110	1983	Winner Bros. Coal Company, Inc.
SC-83-111	1983	Westvaco Corporation*
SC-83-112	1983	Winner Bros. Coal Company
SC-83-113		Permit Not Issued
SC-83-114	1984	Ever, Inc.*
SC-83-115		Permit Not Issued
SC-87-116	1987	John Duckworth Coal Company
SC-87-117	1987	Tri Star Mining, Inc.
SC-87-118	1987	Patriot Mining Company, Inc.

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- \* Operation Completed and Bond Released
  - \*\* Forfeiture of Bond
  - \*\*\* Not Activated